

## **The Value of Energy Efficiency Programs As Part of the Illinois Sustainable Energy Plan**

**March 9, 2005**

The Midwest Energy Efficiency Alliance (MEEA) is pleased to submit these comments in response to the questions posed by the Illinois Commerce Commission (ICC) about the new Illinois Sustainable Energy Plan. We look forward to working with the ICC to develop and implement the plan throughout the state.

The purpose of these comments is to provide the ICC with an explanation of:

- Who the Midwest Energy Efficiency Alliance (MEEA) is
- Why energy efficiency is so important to consumers in Illinois
- The specific value of energy efficiency to Illinois
- Comparison of IL energy efficiency goals to other states' energy efficiency program goals
- Examples of the kinds of energy efficiency programs that can be operated to gain these benefits

### **WHO IS MEEA?**

The Midwest Energy Efficiency Alliance is a collaborative network whose purpose is to advance energy efficiency in the Midwest in order to support sustainable economic development and environmental preservation. Formed in 1999 with early support from the Energy Foundation, U.S. Environmental Protection Agency, U.S. Department of Energy, and our founding members, MEEA is a leader in raising and sustaining the level of energy efficiency in the Midwest region by fostering increased market penetration of existing energy-efficient technologies and promoting new technologies, products and best practices, including renewable energy.

Our goal is to provide a collective voice at a national and regional level; act as a clearinghouse to identify, evaluate and create successful programs and market assessments for the region; and foster communication on effective energy policy. MEEA's strategy is to develop innovative programs that achieve measurable and verifiable results.

Over the past four years, MEEA has become a strong organization with diverse support from various stakeholders in the region and nationally. Members include: manufacturers and retailers; energy service providers and consultants; state and local governments; investor owned utilities, rural electric cooperatives and municipal utilities; academic and research institutions. This broad portfolio of support has allowed MEEA to create entrepreneurial programs that combine private sector interests and contributions with public sector priorities.

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MEEA's Illinois members include the City of Chicago, the Illinois Department of Commerce and Economic Opportunity, Commonwealth Edison, Ameren, Environmental Law and Policy Center, Gas Technology Institute, Honeywell Utility Solutions, Summit Blue Consulting, and the University of Illinois' Energy Resources Center.

MEEA's partnerships have proven that despite the excess capacity of nuclear and fossil fuel in the Midwest, the relatively inexpensive price of energy, and the geographic size of the states in the Midwest, we can organize and execute multi-state, multi-year programs and initiatives that cross state lines and service territory boundaries and also have significant net public sector benefits on an individual state-by-state and service-territory-by-service territory basis.

### WHY IS ENERGY EFFICIENCY IMPORTANT?

Energy Efficiency is the first most basic step to:

- *Avoid building more power plants*
- *Reduce current energy usage and help existing plants operate more efficiently to produce the energy needed*
- *Help alleviate transmission and distribution bottlenecks*
- *Reduce the introduction of pollutants into the environment*
- *Create a more sustainable future for all Illinois consumers, businesses and industry*
- *Create better-informed and more aware consumers who make better choices about the products that they select for their homes and businesses*
- *Help revitalize the economy by investing in the manufacturing of energy efficient products and energy efficient services*

Energy efficiency can reduce the amount of energy traveling on Illinois' transmission and distribution lines, reduce the need to build more generation capacity and reduce the cost of operating state, county and city facilities. In addition, energy efficiency programs make industrial customers more efficient and retain jobs, help commercial infrastructure to be more efficient thus reducing the bills of tenants and companies in the state.

### VALUE TO ILLINOIS

There is both intrinsic value in accomplishing each of the public benefits listed above, but there is also additional value in the practiced stewardship of resources. The return on investment of financing, building, operating, maintaining, purchasing source fuels and dealing with the waste products associated with a centralized generating plant (regardless of fuel source) are very expensive and take up to 30 years to pay back while inflicting additional social costs. Energy efficiency (or demand side management programs), on the other hand, generates a direct economic value of roughly 3:1 and usually pay back within 2 to 5 years. For example, in the residential sector, while it takes roughly 8 cents per kWh to generate a unit of energy it costs (on average) less than 2 cents per kWh to save a unit of energy. In addition, these energy savings are dollars that remain in the state instead of

being spent to import energy from other states and countries. In 2006, Illinois will have a more than \$10 billion drain due to energy imports. Investing in energy efficiency can help reduce that drain on the state's economy.

Local manufacturers, retailers and energy service companies like Good Earth Lighting and Sears produce and sell energy-efficient products and services. These companies will help build the foundation for the state's financial recovery. Manufacturers make a more energy-efficient product, earning premium margins on these products and retailers stock and sell that more efficient product, both generating revenue for the state.

Investments in energy efficiency could free up the resources of the state as well as the disposable income of consumers and businesses that is urgently needed to jump-start Illinois's economy. While the initial investment in energy-efficient products may be higher than their non-efficient counterparts, these products and technologies will save consumers and business significant energy costs over the life of the products. These savings translate to an increase in disposable income and re-investment into the economy. Those investments could also serve to bolster the Illinois economy through the creation of jobs.

A recent study by the American Council for an Energy Efficient Economy (ACEEE)<sup>1</sup> estimates that the state could realize \$1.1 billion in cumulative savings by 2010 by investing in a moderately aggressive energy efficiency program. In addition, energy efficiency programs could create 6,000 new jobs and put downward pressure on natural gas prices, saving an additional \$907 million.

In addition to the common-sense economics of saving money and energy, efficiency programs can help Illinois save its precious environmental resources. Energy efficiency funding can:

- Reduce emissions of critical air pollutants by up to 30%<sup>2</sup>
- Every 1 gigawatt of energy saved results in annual reductions of<sup>3</sup>:
  - 2.2 million lbs of CO<sub>2</sub>
  - 5,800 lbs of NO<sub>x</sub>
  - 11,200 lbs of SO<sub>2</sub>

## COMPARISON OF IL SUSTAINABLE ENERGY PLAN TO OTHER MIDWEST STATES

MEEA commends the governor's office, the state's electric utilities, and the consumer and environmental organizations involved in the Illinois Sustainable Energy Plan for the tremendous amount of time and effort spent developing the plan. MEEA supports the overall goal of increasing energy efficiency throughout the state and encourages the ICC to consider increasing the investment required by Illinois' electric utilities and expanding

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<sup>1</sup> American Council for an Energy-Efficient Economy, *Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the Midwest*, Washington, DC, 2005.

<sup>2</sup> Results from ACEEE's *Energy Efficiency and Economic Development in Illinois*, 1998.

<sup>3</sup> Over the lifetime of the product

the program to include the state's natural gas utilities. As illustrated below, each of the other Midwest states aggressively investing in energy efficiency requires investments substantially larger than those required in Illinois and require participation by the natural gas utilities in the state.

The state of Minnesota requires their investor-owned gas and electric utilities to invest in energy efficiency programs with state oversight into planning and evaluation through the Conservation Improvement Program (CIP). Electric utilities must invest a minimum of 1.5% to 2% of their gross operating revenues and natural gas utilities a minimum 0.5% of their gross operating revenues. Utilities are allowed to recover CIP expenses through annual rate adjustments and recovery is based on a performance incentive. In 2003 the electric utility investment was \$51.4 million and the natural gas utility investment was \$12.2 million. The program achieves an average of 27% of load growth reduction each year. By contrast, the Illinois Sustainable Energy Program will take 10 years to achieve these kinds of savings.

In Wisconsin, a different approach to energy efficiency is used. The state's Focus on Energy Program is operated by the state and funded by a fixed charge on customer bills. In 2003, electric utilities invested \$47.6 million and natural gas utilities invested \$13.9 million.

Regulated utilities in Iowa, both electric and natural gas, are required to file energy efficiency plans with the Iowa Utilities Board. Utilities are allowed cost recovery through an automatic adjustment mechanism. In 2003, electric utilities invested \$36 million and natural gas utilities invested \$12 million.

#### MEEA RECOMMENDATIONS ON THE IL SUSTAINABLE ENERGY PLAN

1. **Include natural gas utilities in the Energy Efficiency Portfolio Standard** - A recent ACEEE report documents that achieving modest efficiency gains in natural gas and electric efficiency will have dramatic effects on natural gas prices. A reduction in natural gas consumption of 1.9% and electricity consumption by 2.2%, achievable in just 12 months, could reduce natural gas prices by as much as 20%. Reducing electricity consumption affects natural gas prices in part because of the increasing use of natural gas for electricity generation. It is imperative that Illinois include natural gas utilities in the Sustainable Energy Plan.
2. **Allow a balanced portfolio of program types to meet the Energy Efficiency Portfolio Standard** – There are a number of different types energy efficiency programs including demand side management, demand response, and load shifting or shedding that address both peak and base load. It is important for Illinois to include programs aimed at both base and peak load in the Energy Efficiency Portfolio Standard. As illustrated in the graphs below, combining base load efficiency with peak load management produces more significant savings than operating peak load management alone.

**Demand side management** is defined as the methods used to manage energy demand including base load energy efficiency and load management. **Demand response programs** are commercial and industrial programs that address peak load issues. Participants agree reduce their use by a certain amount or to have their use curtailed during peak use periods.

3. **Require 3<sup>rd</sup> party verification of program impacts and cost benefit ratios to qualify for cost recovery of program expenditures** – This is important to maintain the integrity of the program and is standard practice in other states like Minnesota.

## EXAMPLES OF PROGRAMS

Included below is information on programs that have been facilitated by MEEA. These descriptions are intended to be illustrative and provide examples of the ability to create programs with measurable and quantifiable results. They are examples of the types of programs utilities could operate to meet the goals defined in the Energy Efficiency Portfolio Standard:

***Residential ENERGY STAR® Lighting Program*** is an expansion of the residential Change A Light, Change the World Lighting program started in 2001 for which MEEA received an **ENERGY STAR** Partner of the Year Award. During the 2004 Change A Light, Change The World fall campaign, a total of 305,441 ENERGY STAR qualified compact fluorescent light bulbs (CFLs) were sold in only 3 months without expending the full budget, making the effort more cost-effective than MEEA anticipated. Further, the effort leveraged more than \$150,000 in matching funds from the manufacturer partner and involved more than 200 retailers.

The 300,000+ CFLs sold will yield over 141,113,742 kWh savings over their life or enough energy to power 14,111 homes for a year. This will keep 169,336 tons of CO<sub>2</sub> from being released into the atmosphere. As a direct result of this promotion, consumer awareness of the energy saving and environmental benefits of CFLs increased. Retailers in U.S. that had not previously participated in an ENERGY STAR promotion now understand the benefits of offering their customers more energy efficient choices, thus laying the groundwork for future collaborations.

***ENERGY STAR Refrigerator Rebate and Recycling*** – a program that provided rebates for the purchase of ENERGY STAR qualified and labeled refrigerators and the complete recycling of the old refrigerators in Illinois and Missouri conducted in 2003. The results have been impressive and include a total of 4,546 units recycled, which translates to a total of over 1.2 MW removed from the grid. The environmental savings from this program translate to over 525,000 lbs of Sox, 271,000 lbs of NO<sub>x</sub> and 104.5 million lbs of carbon emissions. The financial savings were:

Net Present Value of the Pilot Program	\$3.2 million
Benefit-Cost Ratio	4.73

Average Value of the Energy Saved Over the Life of the Refrigerator	\$600,732
Simple Payback Period (Years)	1.13

***Illinois Residential Lighting Program*** – Prior to the FY05 budget cuts, MEEA administered the Department of Commerce and Economic Opportunity (DCEO) Illinois ENERGY STAR Lighting Program. The Program was designed to work toward increased awareness of energy-efficient lighting products by both consumers and retailers to meet DCEO's goals of:

- Promoting energy efficiency by educating Illinois residents and the market actors who supply information to residents about the value of ENERGY STAR.
- Increasing market penetration of energy efficient technologies and lowering the average price-point of the more efficient product.
- Reducing Illinois residential utility bills through the use of more efficient products.

The program had a variety of activities planned including: increased retailer education and in store promotions, continued public outreach events including torchiere turn-in events and ceiling fans promotions, a year-round mail-in rebate coupon campaign, and a pilot CFLs as fundraisers program.

MEEA coordinated a number of **Torchiere Turn-In** events at which consumers who turned in a halogen torchiere received an instant rebate on an ENERGY STAR torchiere. These events received significant positive press for the state and consumers readily embraced the energy, economic, environmental and safety messages from these events.

MEEA also coordinated a mail-in rebate component of the program to give Illinois consumers the opportunity to purchase ENERGY STAR qualified compact fluorescent light bulbs (CFLs) from participating retailers and receive \$3.00 cash back on their purchase. All of the major CFL manufacturers contributed to the majority of the programs costs including funding \$2 of the \$3 rebate amount, making this rebate campaign one the most highly leveraged campaigns in the nation. Additionally, more than 100 retailers throughout the state offered the rebate, allowing wide-spread access to the incentives for Illinois consumers.

The **Lights for Learning Fundraiser** is another component of the DCEO ENERGY STAR lighting program and offered ENERGY STAR qualified compact fluorescent light bulbs (CFLs) for students of participating schools to sell to their families, friends and neighbors. Participating schools earned a 50% profit on the sale of each CFL. In addition, each school had the ability to earn additional incentive money based upon the number of bulbs sold. This program gained national interest and utilities in Oregon and California are now trying to replicate this program.

Since its inception in 2001, the Illinois Residential Lighting Program has conducted 328 formal retail staff trainings, collected over 5,000 torchieres and rebated more than

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300,000 CFLs. The environmental impact of this program includes avoiding the release of 224,000 lbs of SO<sub>2</sub>, 116,000 lbs of NO<sub>x</sub>, and 44 million lbs of carbon emissions.

#### TOTAL IMPACT FROM PROGRAMS TO DATE

- 65.3 million kWhs saved
- 1.5 million lbs of SO<sub>2</sub> avoided
- 754,000 lbs of NO<sub>x</sub> avoided
- 329 million lbs of CO<sub>2</sub> avoided
- 37 jobs have been created

#### VALUE OF REGIONAL COORDINATION

Regional coordination provides the ability to aggregate or leverage funding from various states, utilities and municipalities across the region to develop one large cohesive program, achieve economies of scale, and have consistency of messaging and implementation regardless of state and service territory boundaries. States that do not have significant sums to invest like the state of Missouri Energy Center are able to leverage their resources, get greater cooperation from manufacturers and retailers who would otherwise not listen to their concerns about product shelf space and availability of more efficient products. Manufacturers and retailers have expressed the need for more regional and national coordination of programs for greater consistency which allow these industry partners to further engage and leverage these programs, further increasing the cost-effectiveness of the programs.

Under the Illinois Sustainable Energy Plan, the utilities and alternative energy suppliers throughout the state could participate in statewide and region wide programs to increase their buying power and create seamless programs. . We encourage the commission to allow regional planning, participation and program delivery as a mechanism of dealing with Illinois's state-specific priorities.

Regional programs attract significant interest from manufacturers and retailers allowing sponsors to require cost-sharing, cooperative advertising and other support from the retailers and manufacturers thus leveraging even more of the precious resources of utilities and state and local governments.

#### CONCLUSION

Thank you for the opportunity to provide comments. We look forward to continuing the dialogue and helping to make the Sustainable Energy Plan a reality in the state of Illinois. Attached you will find additional materials that we hope will be helpful.